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## Personality, Gender, and Crying

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### *Abstract*

*This study examined gender differences in crying as well as associations between basic personality traits and self-reported indices of crying. Forty-eight men and 56 women completed the Five-Factor Personality Inventory and the Adult Crying Inventory. Substantial gender differences were demonstrated in crying frequency and crying proneness, but not with respect to mood changes after crying. As predicted, women reported a higher frequency of crying and more proneness to cry both for negative and positive reasons. For women, all these crying indices were negatively associated with Emotional Stability. For men, only a significant negative relationship between Emotional Stability and crying for negative reasons emerged. No clear links were found between personality and mood changes after crying. Multiple regression analysis revealed a significant predictive role of gender for crying proneness, even when controlling for personality differences, but not for crying frequency. Adding personality by gender interaction terms resulted in a disappearance of the main effect of sex, while significant interactions with personality factors showed up for crying frequency and general crying proneness. It is suggested that future research on the relationship between personality and crying should focus more on the underlying mechanisms of observed relationships. Furthermore, it is recommended that future research should examine the role of different emotion regulation strategies. In addition, biological factors, temperament, upbringing measures, and socio-demographic variables should be taken into account. Copyright © 2001 John Wiley & Sons, Ltd.*

### INTRODUCTION

To date, although there is much speculation, little is known about the origins and functions of crying, a unique and typical human form of expressing emotions (Vingerhoets, Cornelius, Van Heck and Becht, 2000). Due to the fact that crying may serve different purposes in different situations, the relationships between crying and coping also are rather complex (Vingerhoets *et al.*, 2000). In addition, little is known about the associations

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between crying and cultural, social, psychological, and biological factors. For instance, Kottler (1996) has emphasized the relevance of biological factors, parental rearing practices, and socio-economic factors as determinants of inter-individual differences. Surprisingly, he did not mention personality. Nevertheless, it seems reasonable that personality features are also linked to crying.

It has been found consistently that women cry more often and intensely than men (Choti, Marston, Holston and Hart, 1987; Frey, 1985; Frey, Hoffman-Ahern, Johnson, Lykken and Tuason, 1983; Kraemer and Hastrup, 1986; Vingerhoets and Becht, 1997; Williams and Morris, 1996; for reviews, see Bekker and Vingerhoets, 1999, 2001; Vingerhoets and Scheirs, 2000). However, it remains to be established to what extent these gender differences may be attributed to differences in personality and a reluctance to express emotions. For example, men and women have been found to differ on personality characteristics like neuroticism, depression, empathy (Eysenck, Eysenck and Barrett, 1985; Feingold, 1994; Heller, 1993), and emotional expression (Fischer, 1993; Kring and Gordon, 1998). The question then arises of to what extent these differences are responsible for gender differences in crying. As far as is known, no studies until now have taken into account differences in personality when examining gender differences in crying.

The links between personality and crying can be summarized as follows. For men, previous studies (Choti *et al.*, 1987; Williams, 1982) have shown associations of crying with identification with feminine sex-role stereotypes, rejection of masculine sex-role stereotypes, levels of emotional empathy, and neuroticism. For women, only significant positive correlations between weeping reactivity, on the one hand, and femininity and empathy, on the other hand, were found. Furthermore, Vingerhoets, Van Den Berg, Kortekaas, Van Heck and Croon (1993) have demonstrated positive associations between weeping frequency and neuroticism in men and women. Interestingly, in the latter study self-esteem was found to act as a suppressor variable. The results suggested that men with high self-esteem cried more often or admitted their crying more easily.

Schlosser (cited in Goldberg, 1987) has examined crying behaviour of women in relation to hardiness, a characteristic of stress-resistant individuals. Her findings indicated a negative association between hardiness and crying proneness. De Fruyt (1997) focused on the relation between Big-Five personality attributes (Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Autonomy) and self-reported weeping frequency and coping aspects of weeping. He could demonstrate a substantial link between neuroticism and weeping tendency, which remained after controlling for gender and age.

Concerning the effects of crying on mood, the following results have been found. Lombardo, Cretser, Lombardo and Mathis (1992) found gender differences in reported feelings after crying. Using a list of different feelings like *relieved*, *relaxed*, *tired*, and *ashamed*, higher scores were obtained by women. Hardy women in Schlosser's (1987) study reported that crying made them feel more depressed. In contrast, women who admitted that they cried frequently felt better after a crying episode. Finally, De Fruyt (1997) reported that extraverts experienced more relief and positive mood changes after a crying bout.

It is important to note that in previous studies, investigators were not consistent in their terminology and operationalization of crying indices. Vingerhoets and Scheirs (2000) have criticized the inaccurate use of the term *crying frequency*. They pointed out that there

might be an essential difference between *crying frequency*, which refers to the actual number of crying episodes within a certain time period (which may be more situationally determined) and *crying proneness*, which should be considered as a more stable personality characteristic.

The aim of the present study was to explore further the relationship between the Big-Five personality factors and indices of crying behaviour. The following characteristics of the present study render it a significant extension of De Fruyt's (1997) work: (i) a distinction was made between crying for negative and positive events and feelings; (ii) two self-reported estimates of crying behaviour were added: estimated actual crying frequency and a self-rating of crying proneness (as compared to others); and (iii) the associations between personality and mood changes after crying were scrutinized in more detail.

## METHOD

### Participants

Sixty women (mean age=43.3, SD=6.2), and 68 men (mean age=41.37; SD=9.1) participated in this study. The sample consisted of friends and relatives of psychology students without any prior experiences with psychological research or assessment. Unfortunately no personality measures were available for 24 subjects (20 men and four women). Therefore, analysis of the relationship between personality measures and crying variables was carried out on a smaller number of subjects.

### Measures

The *Adult Crying Inventory – Part A* (ACI-A; Vingerhoets and Becht, 1997) represents 17 positive situations and emotions that may induce crying, yielding a Positive Crying Score (PCS) and 34 negative situations and emotions that may induce crying, yielding a Negative Crying Score (NCS). It includes also a rating of the crying frequency in the last four weeks (Estimated Crying Frequency; ECF).

Participants were further requested to rate their General Crying Proneness (GCP), using a ten-point Likert scale (*I can hardly ever cry – I can cry very easily*). Finally, people indicated how their mood generally was affected by a crying episode (Mood After Crying; MAC). For each of the following adjectives, *depressed, relaxed, tense, in control, sad, happy*, and *relieved*, it was indicated whether they experienced the feeling, *less, more*, or *to the same degree* (–1, +1, 0) after a crying bout as compared with the period before the crying spell. Scale scores were calculated by reversing the negative items and adding the scores. Cronbach's alpha was 0.75.

In order to measure the five basic personality factors, the *Five Factor Personality Inventory* (Hendriks, 1997, unpublished doctoral dissertation; Hendriks, Hofstee and De Raad, 1999) was applied. This questionnaire consists of 100 items and measures the following dimensions: Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Autonomy. The Cronbach's alphas in this study varied between 0.82 and 0.92.

The questionnaires were completed anonymously and were returned in self-addressed envelopes. The participants received no credits for participation.

## RESULTS

### Gender differences

Table 1 presents the mean values of the crying variables for male and female participants. Pearson intercorrelations among the crying indices are represented in Table 2. Women showed higher scores on all variables, indicating higher crying propensity and higher crying frequency. In contrast, no gender differences were found for MAC, indicating that men and women do not differ in terms of the ways in which their mood was affected after a crying bout. Crying propensity and frequency measures showed considerable intercorrelations, although the intercorrelations between PCS and the other variables, *viz.* NCS, ECF and GCP, were significantly smaller for women than for men. MAC showed no significant associations with propensity and frequency measures.

### Personality and crying

Table 3 shows the Pearson correlations between the crying variables and the personality measures. In the male group, only the negative correlation between NCS and Emotional Stability reached statistical significance. For women, there were significant negative correlations between Emotional Stability and all crying propensity indices, *i.e.*, PCS, NCS, ECF, and GCP. Finally, MAC did not show significant associations with any of the personality features.

### Gender, personality, and crying

The results of multiple regression analyses, with gender and personality as predictors and crying indices as dependent variables (see Table 4) indicated that gender significantly

Table 1. Means, standard deviations and *t*-values for the comparisons between men and women

	Men		Women		<i>t</i> -value
PCS	24.88	(16.34)	38.55	(12.36)	−5.28*
NCS	60.01	(35.39)	103.72	(35.48)	−6.99*
ECF	1.01	(2.24)	2.48	(2.59)	−3.44*
GCP	1.99	(1.71)	4.37	(2.36)	−6.59*
MAC	3.67	(2.39)	3.50	(2.88)	0.31

Standard deviations are presented parenthetically. PCS, Positive Crying Score; NCS, Negative Crying Score; ECF, Estimated Crying Frequency; GCP, General Crying Proneness; MAC, Mood After Crying. \* $p < 0.001$ .

Table 2. Intercorrelations among the crying indices, separately for men (above diagonal) and women (below diagonal)

	NCS	PCS	GCP	ECF	MAC
NCS	—	0.90*	0.80*	0.62*	0.13
PCS	0.60*	—	0.84*	0.69*	0.00
GCP	0.76*	0.47*	—	0.71*	0.14
ECF	0.60*	0.31*	0.72*	—	0.06
MAC	0.03	−0.03	−0.02	−0.01	—

PCS, Positive Crying Score; NCS, Negative Crying Score; ECF, Estimated Crying Frequency; GCP, General Crying Proneness; MAC, Mood After Crying. \* $p < 0.001$ .

Table 3. Means and standard deviations of the personality traits and their correlations with crying indices

	Extraversion	Agreeableness	Conscientiousness	Emotional Stability	Autonomy
Men ( $N = 48$ )					
Mean	69.50	76.40	72.79	78.71	72.44
SD	9.78	6.02	8.13	9.01	6.13
PCS	0.03	-0.05	-0.14	-0.11	0.03
NCS	-0.06	-0.22	-0.25	-0.35*	-0.17
ECF	-0.06	0.01	-0.26	-0.09	0.06
GCP	0.07	-0.13	-0.21	-0.09	-0.12
MAC	0.22	0.19	-0.01	-0.02	-0.10
Women ( $N = 56$ )					
Mean	69.57	80.46	74.07	71.89	68.79
SD	8.88	6.88	8.41	9.56	7.83
PCS	0.07	-0.13	-0.23	-0.28*	-0.07
NCS	0.14	-0.25	-0.25	-0.48**	0.03
ECF	0.12	0.02	-0.12	-0.45**	-0.08
GCP	0.07	-0.12	-0.24	-0.48**	-0.05
MAC	-0.11	0.01	0.03	-0.04	-0.21

PCS, Positive Crying Score; NCS, Negative Crying Score; ECF, Estimated Crying Frequency; GCP, General Crying Proneness; MAC, Mood After Crying. \* $p < 0.05$ ; \*\* $p < 0.001$ .

predicted all the crying variables except MAC and ECF. Emotional Stability was the only personality factor which significantly predicted these crying indices. Extraversion was a significant predictor of crying proneness for negative reasons (NCS), but not for positive reasons (PCS). In addition, Agreeableness predicted crying frequency.

The results of multiple regression analyses with gender, personality, and gender by personality interactions can be summarized as follows. No significant predictors were found for MAC and PCS. In contrast, NCS ( $r^2 = 0.53$ ) was significantly predicted by Emotional Stability ( $\beta = -0.57$ ;  $p < 0.001$ ) and Extraversion ( $\beta = 0.25$ ;  $p < 0.05$ ). In addition, a substantial amount of the variance of crying frequency ( $r^2 = 0.39$ ) could be explained by, respectively, Extraversion ( $\beta = 0.37$ ;  $p < 0.01$ ), Emotional Stability ( $\beta = -0.70$ ;  $p < 0.001$ ), and the interactions of these factors with gender ( $\beta = -1.65$ ;  $p < 0.05$  and  $\beta = 2.07$ ;  $p < 0.05$ , respectively<sup>1</sup>). Finally, a substantial amount of the variance of crying proneness ( $r^2 = 0.44$ ) could be explained by Emotional Stability ( $\beta = -0.59$ ;  $p < 0.001$ ) and its interaction with gender ( $\beta = 2.32$ ;  $p < 0.05$ ).

## DISCUSSION

The aim of the present study was to examine the associations between personality and crying, in particular in relation to gender differences. Corroborating the results of previous research (cf. Bekker and Vingerhoets, 1999, 2001; Vingerhoets and Scheirs, 2000), it was found that women report a higher crying frequency and crying proneness than men. The present study further confirmed previously reported relations between Neuroticism and crying propensity (De Fruyt, 1997; Vingerhoets *et al.*, 1993; Williams, 1982). On the other hand, the relevance of Extraversion and Agreeableness, as it emerged in the regression

<sup>1</sup> $\beta$  may occasionally have values  $>1.0$ , which may be caused by multicollinearity.

Table 4. Explained variance and betas of regression analyses with gender (male = 1, female = 0) and personality variables as predictors and crying indices as dependent variables

	$R^2$	Gender	Extraversion	Agreeableness	Conscientiousness	Emotional Stability	Autonomy
PCS	0.30	-0.42**	0.11	0.03	-0.13	-0.23*	0.04
NCS	0.51	-0.46**	0.16*	-0.01	-0.12	-0.45***	0.12
ECF	0.32	-0.19	0.17	0.22*	-0.12	-0.49***	0.12
GCP	0.40	-0.38***	0.16	0.08	-0.15	-0.40***	0.07
MAC	0.04	0.07	0.06	0.06	0.00	0.00	-0.19

PCS, Positive Crying Score; NCS, Negative Crying Score; ECF, Emotional Crying Frequency; GCP, General Crying Proneness; MAC, Mood After Crying.

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

analysis, has not been reported before. In the female group, Emotional Stability was significantly negatively correlated with all crying indices, except for mood change after crying. In the male group, Emotional Stability correlated only significantly negatively with crying for negative reasons. Multiple regression analyses demonstrated that gender and again Emotional Stability were the best predictors of the various crying indices. Thus, gender differences in crying proneness were maintained after controlling for differences in Emotional Stability; in contrast, gender differences in crying frequency cannot be explained by the gender difference in Neuroticism. A further notable finding is that, in men, Emotional Stability is especially related to crying proneness as far as it concerns crying for negative reasons. Also remarkable are the differences in the strength of association between crying for positive reasons and the other indices between men and women. Crying in situations in which one experiences relief or rapture or when one is being touched shows no significant relationship with Neuroticism in men, but it does so for women. The weaker associations between crying for positive reasons and the other crying indices in the female group suggest that women have a more differentiated emotional life. Such a view is supported by the finding that men obtain higher scores on alexithymia, which include, among others, the inability to distinguish between different emotional states (Fischer and Good, 1997; Lane, Schreest and Riedel, 1998).

Being aware of the problem of multicollinearity, the results of the regression analyses further seem to suggest that the interactions of gender and personality (i.e. Emotional Stability and Extraversion) are much more important than the gender main effect. In other words, the present results once more confirm that the relationship between these personality factors and the specific dependent variables is much stronger for women than for men. Why would these relationships be stronger for women than for men? Maybe this is the case because there are other (social?) influences that are more important for men than for women, which overrule these relationships. For instance, Brody (2000) and Jansz (2000) discussed the restrictive emotionality of Western men and the many factors that play a role in the socialized inhibition of male emotional expressivity. Previously, Vingerhoets *et al.* (1993) reported that self-esteem was an important suppressor variable in predictions of crying. It appeared that men with a high self-esteem reported more crying proneness than men with low self-esteem. As the authors pointed out, given the self-report nature of the data, it is not possible to determine whether men with higher self-esteem actually cry more often or that they have fewer problems with admitting it. To put it differently, it may be that women react more in accord with their feelings and are less inhibited in the shedding of tears by the social environment than men. Future research should be focused more specifically on this explanation.

A last important finding is the lack of clear associations between mood after crying and both gender and personality. Contrary to some previous studies (De Fruyt, 1997; Lombardo *et al.*, 1983; Schlosser, 1986) our data do not suggest that there is a certain subgroup of people who in particular perceive or experience weeping as a useful way to achieve relief and relaxation. It is difficult to explain why we failed to replicate these previous findings, since these studies differ in terms of sample characteristics, applied methodology, and assessment issues. More attention for this specific issue is desirable in future studies.

The present findings thus indicate that personality and gender show associations with crying. A further question is how such relationships can be explained. Vingerhoets and Scheirs (2000), Bekker and Vingerhoets (2001), and Vingerhoets, Van Tilburg, Boelhouwer and Van Heck (2001) have discussed the following factors, each of which may be partially responsible for gender and personality differences in crying behaviour:



(i) exposure to stressors; (ii) impact ratings of stressors ('appraisal'); (iii) emotionality and willingness to express emotions; (iv) moderating factors including biological ones (e.g. prolactin). They concluded that any of these variables may partially contribute to inter-individual and group differences in crying, although the lack of data prevented the drawing of any definitive conclusions. These different aspects nicely fit in the Gross and Muñoz (1995) model of emotion regulation, which distinguishes antecedent-focused emotion regulation from response-focused emotion regulation.

In addition, recently, Kennedy-Moore and Watson (1999) have proposed a model that provides a systematic way of thinking about the process of emotional expression. According to this model, emotional (non)expression can be thought of as a trait in that there is considerable consistency across time and across situations in the degree to which individuals express their emotions. Within this framework, crying can directly result from initial prereflective reactions, bypassing cognitive-evaluative steps, or it can reflect an expressive style that manifests itself at different points in the process of emotional expression, *viz.* conscious perception of the affective reaction (e.g. crying), the labelling and interpretation of this affective response, the evaluation of crying as acceptable or not in terms of beliefs and goals, and, finally, at the level of the social context for expression.

Also, the more elaborated crying model of Vingerhoets, Van Geleuken, Van Tilburg, and Van Heck (1997) is helpful to illustrate the many ways in which crying and personality may be linked. This model is based on emotion and stress models. Its components are: (i) objective situations; (ii) (re-)appraisal, resulting in a negative internal representation of the situations, such as loss, personal inadequacy, conflict, etc; and (iii) emotional responses. Together with (iv) moderating variables (both personal characteristics and situational variables), these factors determine whether or not a crying response will occur. It is assumed that both inter- and intra-individual differences in crying behaviour can – at least partly – be explained by differences in any of these components of the model. For a better understanding of the role of personality and gender as codeterminants of crying, it would be most helpful to take all these aspects into account. For example, it would be important to know whether neurotics are more often exposed to crying inducing situations, appraise situations differently, and/or have more difficulties with controlling the expression of emotions, once they have an emotional experience.

Moreover, one may wonder to what extent the specific function or type of crying in a given situation is relevant. Buss (1992) examined, among others, crying-related behaviours as a manipulation tactic in close relationships. This study revealed some intriguing associations with personality attributes. For instance, it could be demonstrated that Neuroticism was the only personality factor that was associated with 'regressive' manipulation tactics like pouting, sulking, and whining.

A final point to be raised is whether it makes sense to differentiate between the different crying indices, in particular to distinguish the frequency measure, which we expect to be more environmentally based, from the propensity measures, which in our view reflects more stable personality features. One could object that proneness is to a large extent determined by a reflection on how often one has actually cried in the past period. Given the moderate strength of the associations (typically in the range of 0.60–0.70, with the exception of crying for positive reasons and the frequency measure, which does not exceed 0.31), we feel that it makes sense to distinguish between these two indices. This conviction is further supported by unpublished findings of Lensvelt (personal communication), who could establish in a sample of monozygotic and dizygotic twins that crying frequency indeed was more environmentally determined than crying proneness.

What is needed badly is systematic research on how gender differences in crying develop, since it is known that male and female newborns and babies do not show sizeable differences in crying frequency (see Vingerhoets and Scheirs, 2000). Future research should further focus on factors such as empathy (Eisenberg and Lennon, 1983) and depression (Halbreich and Lumley, 1993; Heller, 1993) as well as more biologically based temperament variables, which might be related to baby crying as well as adult weeping.

In conclusion, the question concerning the role of personality as a codeterminant of crying is far more complex than it seems at first glance. For a more detailed analysis, researchers should take into account distinct forms of emotion regulation and maybe also different forms of crying. Only then will it be possible to obtain adequate insight into the precise role of personality (and other relevant factors) in this intriguing and uniquely human way of emotional expression.

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